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Statement

An Act Concerning Landlord and Tenant Responsibilities for Bed Bug Infestations

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The EPA (Environmental Protection Agency) and CDC (Centers for Disease Control and Prevention) consider the Common bed bug, (*Cimex lectularius* L.), a pest of "significant public health importance" and an increasing health problem throughout the United States (Rajeev 2013; CDC 2010). The CDC documented 111 cases of pesticide poisoning through misuse by untrained citizens against bed bugs (CDC 2011).

This bill addresses public issues of bed bug management in Connecticut in an attempt to facilitate cooperation and communication between landlords and tenants over bed bugs. (Doggett 2012; Anderson 2008; Leverkus 2006; Abdel-Naser 2006; Pritchard 2009; NPMA 2010; Goddard 2012; Rieder 2012; CDC 2011). I will address one point, the use of "Over the Counter Pesticides" (OCP's) by landlords to treat for bed bugs.

The trend for bed bug infestations to increase in private homes, condominiums, and apartments "shows no sign of slowing down" (Pinto et al. 2007; Hwang 2005; Potter 2005; Doggett 2007), due to pesticide resistance (Anderson 2012; Romero et al. 2007, Yoon et al. 2008, Seoing et al. 2010, Zhu et al. 2010; Adelman et al. 2011; Moore and Miller 2009; Wang et al 2009; Johnson 1948 (who noticed DDT resistance)) and innate bed bug behavior (Usinger 1966, Kemper 1936; Hase 1917; Johnson 1942). These are shy, crack and crevice insects, that move between a host and their harborage. For millennia they have adapted against predation and human efforts to kill them (Potter 2011; Johnson 1939). One of many survival strategies is that female hide of eggs. Each week, a female must feed and mate to produce a "clutch" of eggs. Once she runs out of nutrients from the previous blood-meal, she must re-feed and re-mate to start the next cycle. She will repeat this cycle until she becomes too old or dies. In my research, I found that females during each cycle will lay several well hidden eggs away from a clutch. In the event that the clutch is destroyed, those hidden eggs may survive to hatch.

There is a move to include language in the bill, allowing landlords to self-treat. Research at The Connecticut Agricultural Experiment Station and elsewhere, repeatedly show OCP Type I pesticides sold to the public, are ineffective. Type I OCP's are less than 5% effective whereas Type II pesticides, available to Pest Management Professionals (PMP's) are up to 95% effective (Anderson and Cowles 2012). Having untrained citizens treat for bed bugs is almost always ineffective. If this clause is written into the bill, I suggest the following to increase the likelihood of success; 1) before treating for bed bugs, a landlord should vacuum cracks and crevices of furniture, all framing, and outlets, etc. to remove bed bug

protective debris and allow for OCP's deeper penetration into voids; 2) a landlord should only treat once before engaging a PMP, to minimize pesticide overload in a building; and 3) 10 days post treatment (a timing to intercept bed bug biology), a trained Connecticut licensed PMP must be called to inspect. Photographs of cleaning and evidence of what pesticides were used and how much, should be presented to the PMP. This will assist the PMP in assessing safety levels of pesticide load in a building. If live bed bugs are found and the PMP is engaged, it will be useful information in deciding best IPM (Integrated Pest Management) practice measures, for a safe effective treatment.

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